

# Six Sigma MEPRS Management Metrics



Click on a peer group below to view a specific metric:

Rx Dispensing Costs	Available FTE's per Daily Occupied Bed	Ratio of Support Personnel to Provider FTEs	Rx Workload per Rx FTE	Lab Workload per Lab FTE	Rad Workload per Rad FTE	Inpatient Costs per RVP	Ambulatory Costs per APG
Medical Centers	Medical Centers	Medical Centers	Medical Centers	Medical Centers	Medical Centers	Medical Centers	Medical Centers
Large Hospitals	Large Hospitals	Large Hospitals	Large Hospitals	Large Hospitals	Large Hospitals	Large Hospitals	Large Hospitals
Small Hospitals	Small Hospitals	Small Hospitals	Small Hospitals	Small Hospitals	Small Hospitals	Small Hospitals	Small Hospitals
Large Clinics	Large Hosp OCONUS	Large Clinics	Large Clinics	Large Clinics	Large Clinics	Large Hosp OCONUS	Large Clinics
Small Clinics	Small Hosp OCONUS	Small Clinics	Small Clinics	Small Clinics	Small Clinics	Small Hosp OCONUS	Small Clinics
Large Hosp OCONUS		Large Hosp OCONUS	Large Hosp OCONUS	Large Hosp OCONUS	Large Hosp OCONUS		Large Hosp OCONUS
Small Hosp OCONUS		Small Hosp OCONUS	Small Hosp OCONUS	Small Hosp OCONUS	Small Hosp OCONUS		Small Hosp OCONUS
Clinics OCONUS		Clinics OCONUS	Clinics OCONUS	Clinics OCONUS	Clinics OCONUS		Clinics OCONUS

**SRA International, Inc.**  
**TMA MEPRS Program Office**  
**Management Control and Financial Studies**

**By the end of this presentation, you will be able to:**

- **Describe the origin and goals of Six Sigma**
- **Identify how Six Sigma is used in healthcare and other industries**
- **Understand and correctly interpret the S2M3 tool**
- **Understand how individual MTF characteristics can affect its position among its peer group/cohort.**
- **Locate tools to help you begin exploring data quality opportunities**

## *Six Sigma*

- *Six Sigma is a statistics based business improvement process that continually strives for perfection.*
- *It employs a disciplined methodology created from the manufacturing industry for eliminating the wastes of defects or variance to lower costs and improve customer satisfaction.*

## ***Six Sigma Methodology for Improving Existing Processes***

### **DMAIC**

- **Define Opportunities**
- **Measure Performance**
- **Analyze Opportunity**
- **Improve Performance**
- **Control Performance**

## **Six Sigma in Healthcare:**

- Transcription businesses are able to identify the root cause responsible for the majority of errors committed by transcriptionists and thereby reducing significant numbers of errors.
- Gratiot Medical Center, in Michigan, was losing substantial revenue due to inconsistent registration and authorization procedures in the billing process. Almost immediately, they saw a significant drop-off in denials and they increased their revenue over \$100,000 in one year.
- West Branch Regional Medical Center in Michigan focused on a primary driver customer satisfaction: the Emergency Department. Elopement was reduced from 28 per month to 17 per month over a three-month period. The average stay for admits in the ED dropped from 2.6 hours to 1.6 hours. The additional capacity in ED has the potential to generate over \$150,000 in revenue per year.

## Six Sigma MEPRS Management Metrics (S2M3)



FY06/FY07 Update

All data obtained from the EAS IV Repository and M2 in September 2007



Click on a peer group below to view a specific metric:

Rx Dispensing Costs	Available FTE's per Daily Occupied Bed	Ratio of Support Personnel to Provider FTEs	Rx Workload per Rx FTE	Lab Workload per Lab FTE	Rad Workload per Rad FTE	Inpatient Costs per RWP	Ambulatory Costs per APG
Medical Center	Medical Center	Medical Center	Medical Center	Medical Center	Medical Center	Medical Center	Medical Center
Large Hospitals	Large Hospitals	Large Hospitals	Large Hospitals	Large Hospitals	Large Hospitals	Large Hospitals	Large Hospitals
Small Hospitals	Small Hospitals	Small Hospitals	Small Hospitals	Small Hospitals	Small Hospitals	Small Hospitals	Small Hospitals
Large Clinics	Large Hosp OCO	Large Clinics	Large Clinics	Large Clinics	Large Clinics	Large Hosp OCO	Large Clinics
Small Clinics	Small Hosp OCO	Small Clinics	Small Clinics	Small Clinics	Small Clinics	Small Hosp OCO	Small Clinics
Large Hosp OCO		Large Hosp OCO	Large Hosp OCO	Large Hosp OCO	Large Hosp OCO		Large Hosp OCO
Small Hosp OCO		Small Hosp OCO	Small Hosp OCO	Small Hosp OCO	Small Hosp OCO		Small Hosp OCO
Clinics OCONU		Clinics OCONU	Clinics OCONU	Clinics OCONU	Clinics OCONU		Clinics OCONU

### Executive Summary:

[Medical Centers](#)  
[Large Hospitals](#)  
[Large Hospitals OCONUS](#)  
[Small Hospitals](#)  
[Small Hospitals OCONUS](#)  
[Large Clinics](#)  
[Small Clinics](#)  
[Clinics OCONUS](#)

### Notes:

[Six Sigma Description](#)  
[Definition of Metrics](#)  
[Data Sources](#)  
[Peer Group Definitions](#)

### External MEPRS Resources:

[MEPRS Web Portal](#)  
[MEWACS](#)  
[MEPRS Manual DoD 6010.13-M](#)  
[Human System Interface \(HSI\)](#)

### MTF-Peer Group Lookup:

[Air Force](#)  
[Army](#)  
[Navy](#)

If you have questions on the data contained, please contact:

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## Six Sigma MEPRS Management and Control Metrics

FY 06/FY 07 S2M3

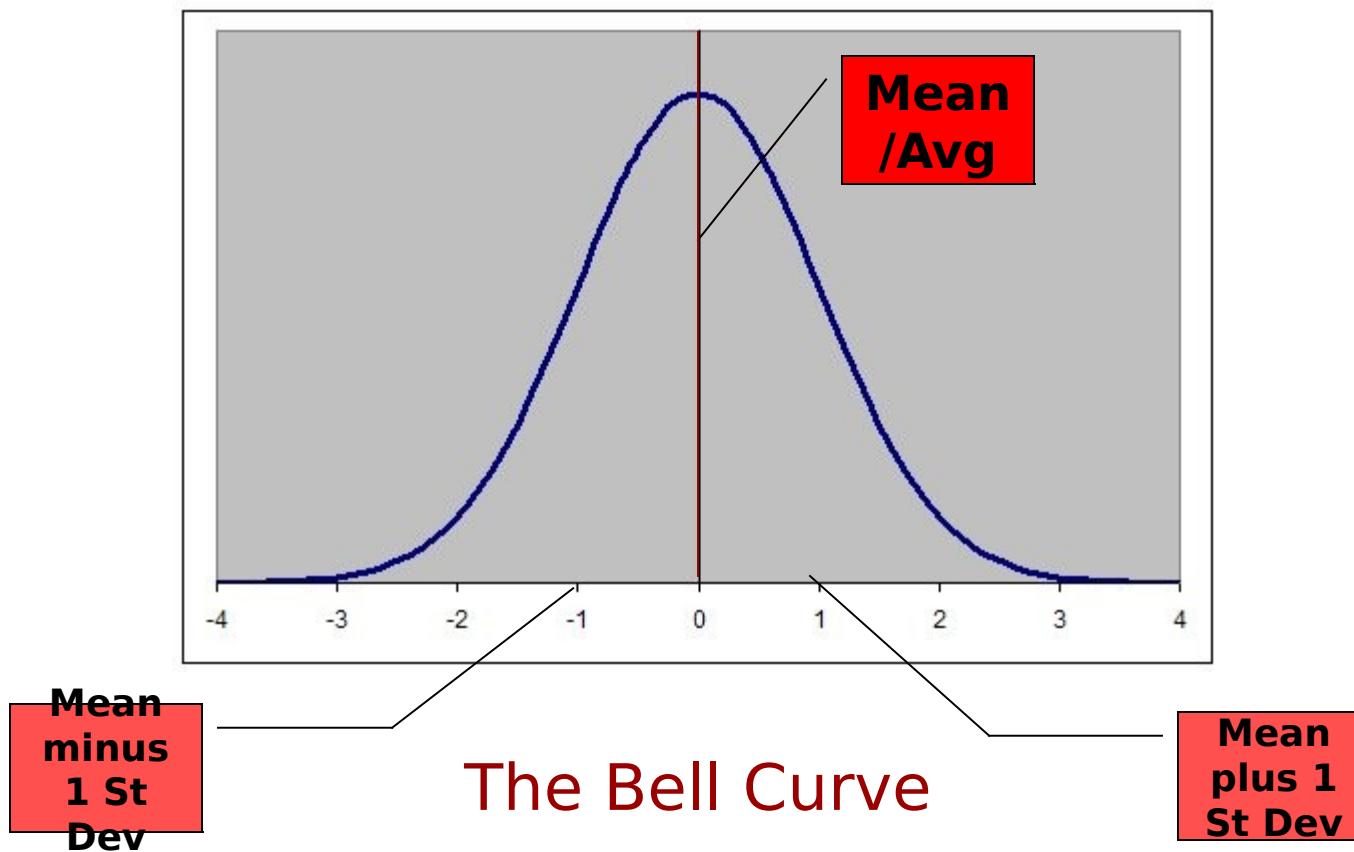
### Standardized Executive Summary by Peer Group\*

DMIS ID	MTF Name	Rx Dispensing Costs	Available FTE per Daily Occupied Bed	Ratio of Support Personnel to Provider FTEs	Rx Workload per Rx FTE	Lab Workload per Lab FTE	Rad Workload per Rad FTE	Inpatient Costs per RWP	Ambulatory Costs per APG	Standardized Average
<b>Medical Centers</b>										
0109	BROOKE AMC-FT. SAM HOUSTON	0.03	0.36	0.14	2.95	1.44	1.72	0.25	0.17	0.88
0125	MADIGAN AMC-FT. LEWIS	-0.10	0.55	-0.23	-0.17	0.70	1.82	1.19	0.86	0.58
0108	WILLIAM BEAUMONT AMC-FT. BLISS	1.77	0.40	0.28	0.10	1.58	-0.51	0.58	-0.09	0.51
0052	TRIPLER AMC-FT SHAFTER	0.20	0.05	-0.40	0.12	1.06	1.44	0.15	1.25	0.48
0067	NNMC BETHESDA	0.71	1.19	1.14	1.05	-0.51	-0.18	-0.09	0.24	0.44
0124	NMC PORTSMOUTH	0.31	0.22	0.94	-0.39	-0.77	-0.62	0.60	0.98	0.16
0089	WOMACK AMC-FT. BRAGG	0.85	0.41	-2.73	0.17	0.60	-0.37	0.94	1.07	0.12
0029	NMC SAN DIEGO	-0.10	0.40	0.25	-0.41	-0.31	-0.53	0.86	0.36	0.07
0047	EISENHOWER AMC-FT. GORDON	0.01	0.59	-1.24	-0.71	-0.50	0.67	0.19	0.68	-0.04
0117	59th MED WING-LACKLAND	-0.24	0.09	0.77	0.15	-0.40	-0.21	-0.24	-0.88	-0.12
0037	WALTER REED AMC-WASHINGTON DC	-0.24	0.60	-0.33	-0.39	0.78	-0.34	-0.85	-0.38	-0.14
0095	74th MED GRP-WRIGHT-PATTERSON	0.76	-0.57	0.67	-0.64	-1.27	-0.72	0.01	-1.18	-0.37
0014	60th MED GRP-TRAVIS	-1.88	-1.70	0.34	-0.80	-1.31	-0.89	-0.80	-0.91	-0.99
0073	81st MED GRP-KEESLER	-2.07	-2.59	0.40	-1.04	-1.08	-1.29	-2.78	-2.18	-1.58

**\*Note:**

The S2M3 Executive Summary has been standardized to reflect uniform positive/negative Z-score values across all metrics, thus positive Z-scores indicate more desirable values and negative Z-scores are less desirable values. For example, in the Pharmacy Dispensing Cost metric a negative Z-score denotes a dispensing cost that falls below the peer group average. Since in that case a negative Z-score is more desirable than a positive value, the Z-score sign reflected in the S2M3 Executive Summary has been changed to positive. The Z-score signs have been reversed for the following metrics in this Executive Summary:

- Rx Dispensing Costs
- Available FTE per Daily Occupied Day
- Ratio of Support Personnel to Provider FTEs
- Inpatient Costs per RWP
- Ambulatory Costs per APG



## FY06/FY07 Cost of Pharmacy Dispensing: Medical Centers

### FY06/FY07 Cost of Pharmacy Dispensing Summary Statistics

Parent DMIS ID	DMIS ID Name	Raw Work	Rx \$ Less Supply Cost	Disp Cost per Script	Z Score	
0108	WILLIAM BEAUMONT AMC-FT. BLISS	11,351,313	\$ 2,547,708	\$ 0.22	-1.77	<p>Better</p> <p>↑</p> <p>↓</p> <p>Worse</p>
0089	WOMACK AMC-FT. BRAGG	978,731	\$ 4,127,486	\$ 4.22	-0.85	
0095	74th MED GRP-WRIGHT-PATTERSON	1,008,792	\$ 4,608,433	\$ 4.57	-0.76	
0067	NNMC BETHESDA	544,046	\$ 2,620,678	\$ 4.82	-0.71	
0124	NMC PORTSMOUTH	1,379,162	\$ 9,018,997	\$ 6.54	-0.31	
0052	TRIPLER AMC-FT SHAFTER	691,116	\$ 4,861,871	\$ 7.03	-0.20	
0109	BROOKE AMC-FT. SAM HOUSTON	792,613	\$ 6,133,324	\$ 7.74	-0.03	
0047	EISENHOWER AMC-FT. GORDON	681,389	\$ 5,332,586	\$ 7.83	-0.01	
0029	NMC SAN DIEGO	1,133,409	\$ 9,413,716	\$ 8.31	0.10	
0125	MADIGAN AMC-FT. LEWIS	889,071	\$ 7,405,689	\$ 8.33	0.10	
0117	59th MED WING-LACKLAND	877,873	\$ 7,830,476	\$ 8.92	0.24	
0037	WALTER REED AMC-WASHINGTON DC	602,172	\$ 5,385,882	\$ 8.94	0.24	
0014	60th MED GRP-TRAVIS	448,568	\$ 7,193,557	\$ 16.04	1.88	
0073	81st MED GRP-KEESLER	280,418	\$ 4,724,624	\$ 16.85	2.07	

Statistic	Raw Work	Rx \$ Less Supply Cost	Dispensing Cost per Script
<b>Mean:</b>	1,547,048	\$ 5,800,359	\$ 7.88
<b>Median:</b>	835,243	\$ 5,359,234	\$ 7.78
<b>St. Dev:</b>	2,836,267	\$ 2,139,450	\$ 4.34

Value nearest peer group mean

MTFs within 1 Std. Deviation from the peer group mean

2 Std. Deviations above/below the peer group mean

3 Std. Deviations above/below the peer group mean

Mean Disp Cost per Script	St Dev	1 St Dev Range	2 St Dev Range	3 St Dev Range
\$7.88	\$4.34	(\$3.54 - \$12.22)	(-\$0.80 - \$16.56)	(-\$5.14 - \$20.90)



## FY06/FY07 William Beaumont AMC Pharmacy Workload

Fiscal Year	Parent DMIS ID	Fiscal Month	Raw Statistical Amount	Weighted Statistical Amount
2006	0108	01	42,065.00	42,690.85
2006	0108	02	43,101.00	43,180.10
2006	0108	03	44,742.00	44,917.20
2006	0108	04	48,233.00	48,871.85
2006	0108	05	44,495.00	45,965.80
2006	0108	06	49,709.00	50,012.80
2006	0108	07	44,147.00	42,810.20
2006	0108	08	43,391.00	43,829.45
2006	0108	09	40,544.00	41,104.25
2006	0108	10	10,877,772.00	45,866.40
2006	0108	11	42,111.00	42,580.00
2006	0108	12	42,235.00	42,448.80

Fiscal Year	Parent DMIS ID	Fiscal Month	Raw Statistical Amount	Weighted Statistical Amount
2007	0108	01	42,816.00	43,829.95
2007	0108	02	39,735.00	40,217.15
2007	0108	03	39,658.00	39,922.35
2007	0108	04	44,639.00	45,089.60
2007	0108	05	43,926.00	44,403.05
2007	0108	06	50,339.40	51,054.35
2007	0108	07	45,022.00	46,101.40
2007	0108	08	44,213.00	44,341.80
2007	0108	09	39,831.00	109,232.00
2007	0108	10	38,569.00	38,439.40
2007	0108	11	42,210.00	42,489.80
2007	0108	12	39,768.00	40,026.35

## FY06/FY07 William Beaumont AMC Pharmacy Workload

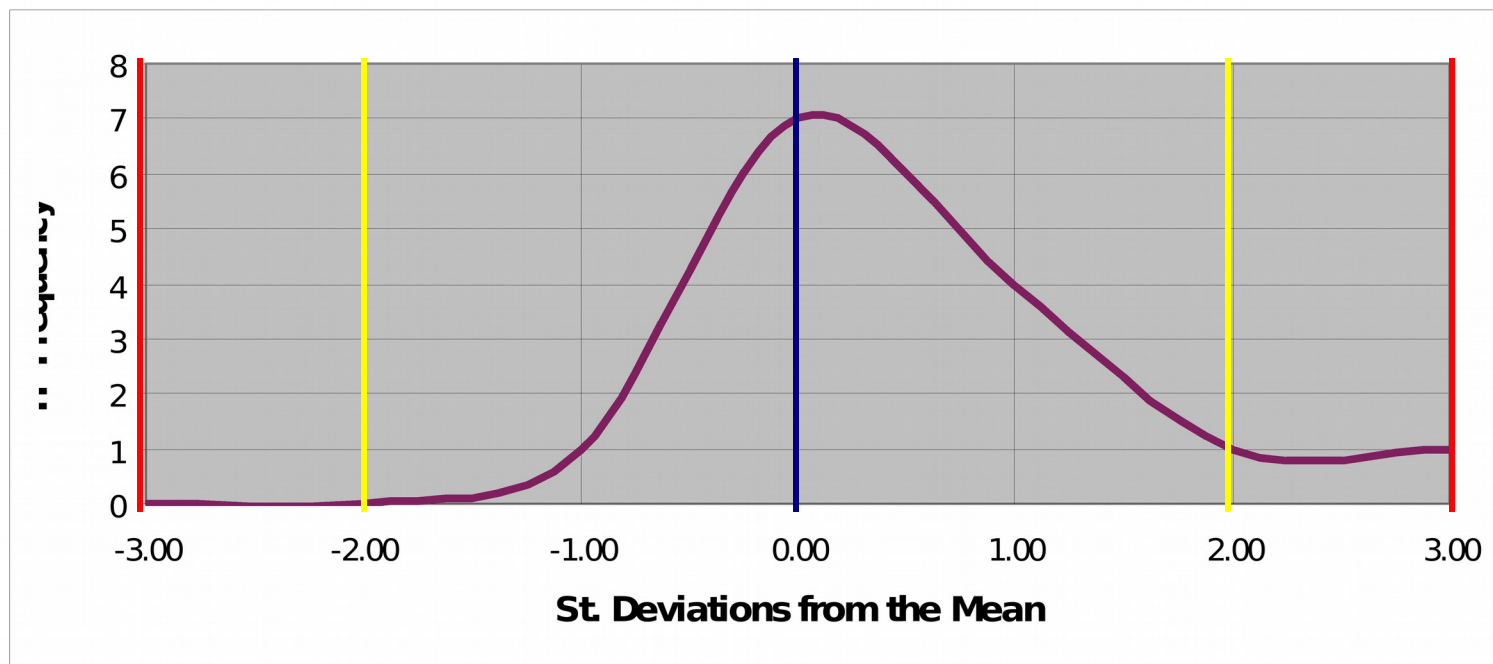
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2006	0108	02	43,101.00	43,180.10
2006	0108	03	44,742.00	44,917.20
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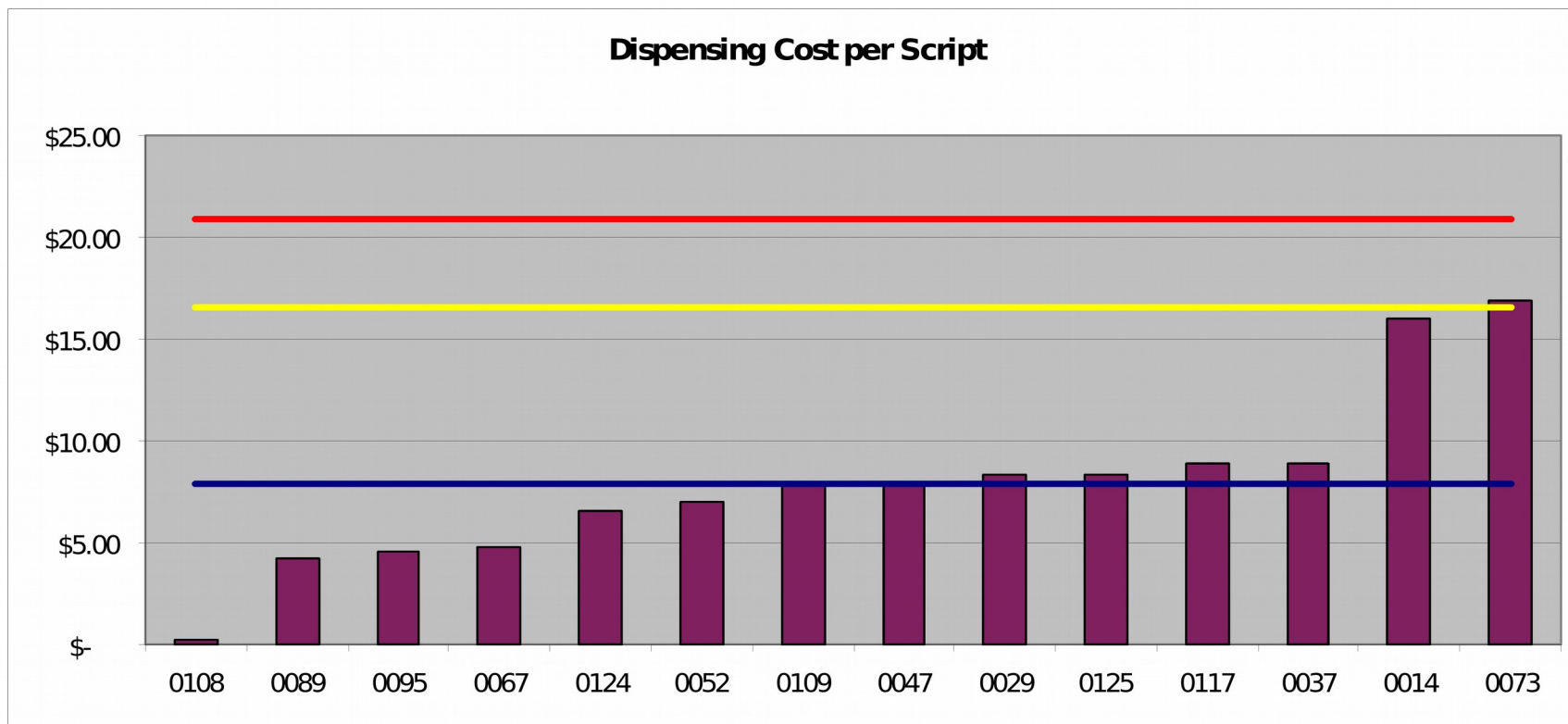
## FY06/FY07 Cost of Pharmacy Dispensing: Medical Centers

Peer Group Graphs

- Lines Represent +/- 3 Standard Deviations from the peer group mean
- Lines Represent +/- 2 Standard Deviations from the peer group mean
- Peer group mean

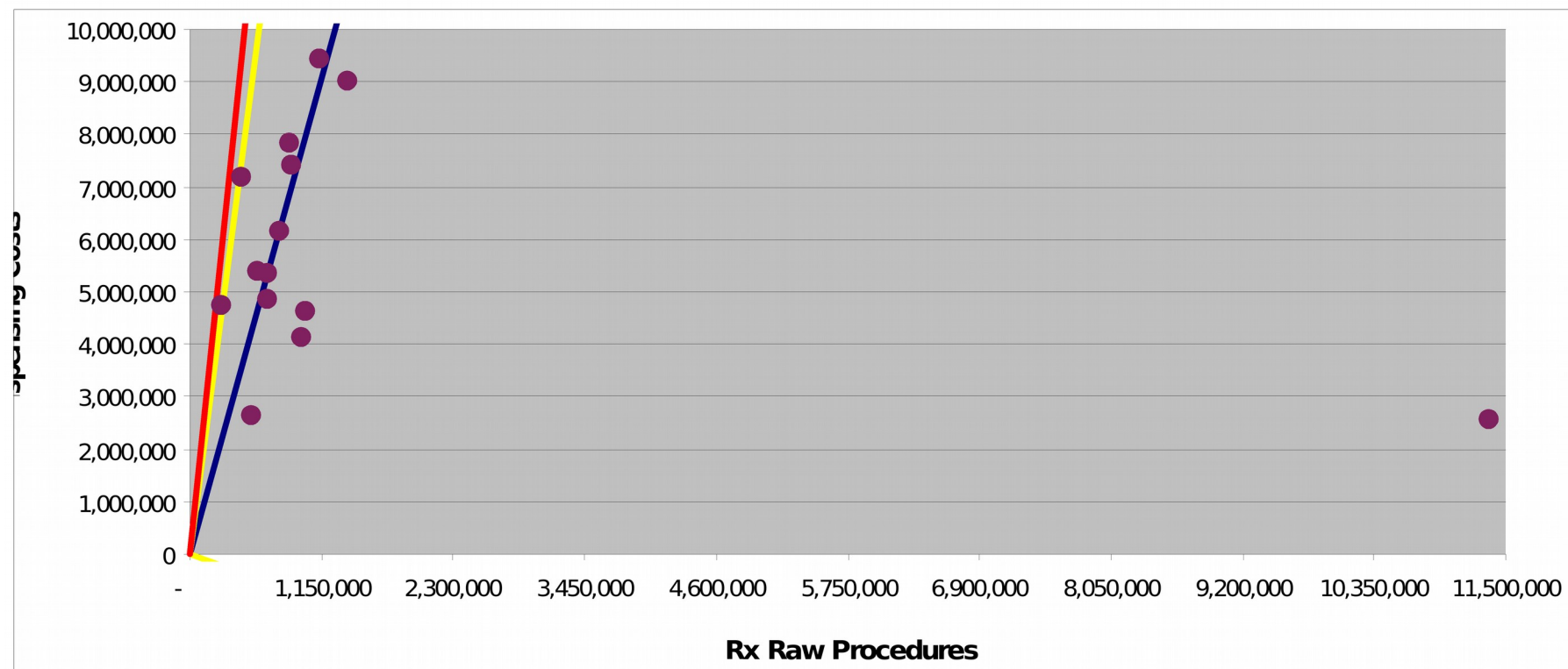


Graph 1



Graph 2





Graph 3



## **You can now:**

- **Describe the origin and goals of Six Sigma**
- **Identify how Six Sigma is used in healthcare and other industries**
- **Understand and correctly interpret the S2M3 tool**
- **Understand how individual MTF characteristics can affect its position among its peer group/cohort.**
- **Locate tools to help you begin exploring data quality opportunities**

# **Six Sigma MEPRS Management Metrics (S2M3)**

## **Questions?**